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Recent Results and Prospects of the SCRIT Electron Scattering Facility

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The world's first electron scattering off online-produced Radioisotope (RI) was successfully conducted at the SCRIT electron scattering facility. Electron scattering stands out as one of the most potent and reliable tools for investigating the structure of atomic nuclei, owing to the well-understood mechanism of electromagnetic interaction.

Despite a long-standing desire to explore exotic features of short-lived unstable nuclei through electron scattering, it has been impeded by the difficulty in preparing thick targets. However, we have recently achieved a significant milestone by realizing electron scattering from ^{137}Cs , which was generated via the photo-fission of uranium and promptly transferred to the SCRIT system for trapping within a short time.

This experiment serves as a noteworthy emulation of electron scattering from short-lived unstable nuclei produced online, especially considering future upgrades to the power of the ISOL driver. In this contribution, we will present recent progress and prospects of the SCRIT electron scattering facility. Additionally, we will discuss several topics that may only be feasible in the future using the SCRIT method.

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Email Address

tsukada.kyo.5x@kyoto-u.ac.jp

Presenter if not the submitter of this abstract

Primary author: TSUKADA, Kyo (ICR, Kyoto University)

Co-authors: Dr ENOKIZONO, Akitomo (RIKEN Nishina Center); Mr LEGRIS, Clement (ELPH, Tohoku University); Mr ABE, Daiki (ELPH, Tohoku University); Ms WAUKE, Hikari (ELPH, Tohoku University); Mr ISHIZAKI, Kazushi (ELPH, Tohoku University); Prof. KURITA, Kazuyoshi (Rikkyo University); Ms TACHIBANA, Mariko (ICR, Kyoto University); Dr HARA, Masahiro (RIKEN Nishina Center); Prof. WAKASUGI, Masanori (ICR, Kyoto University); Ms DANJO, Rika (ELPH, Tohoku University); Dr OGAWARA, Ryo (ICR, Kyoto University); Mr YOSHIDA, Satoru (ICR, Kyoto University); Dr ICHIKAWA, Shin'ichi (RIKEN Nishina Center); Dr IIMURA, Syun (Rikkyo University); Prof. TAMAE, Tadaaki (ELPH, Tohoku University); Mr GOKE, Taiga (ELPH, Tohoku University); Dr OHNISHI, Tetsuya (RIKEN Nishina Center); Prof. SUDA, Toshimi (ELPH, Tohoku University); Dr HORI, Toshitada (RIKEN Nishina Center); Mr YAMANO, Tsubasa (Rikkyo University); Dr ABE, Yasushi (RIKEN Nishina Center); Mr MAEHARA, Yoshiki (ICR, Kyoto University); Dr HONDA, Yuki (ELPH, Tohoku University); Mr ITO,

Yuki (ICR, Kyoto University); Mr MAEDA, Yusei (ICR, Kyoto University); Mr ISHIKURA, Yuuma (ELPH, Tohoku University)

Presenter: TSUKADA, Kyo (ICR, Kyoto University)

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